Build Back from The Great Hanshin Earthquake

- Build Back of The International Port of Kobe by General Contractor -

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http://www.toyo-const.co.jp/
Damaged Hanshin Expressway in Kobe City

Photographing Date: Jan. 1995

Damaged Piers of Viaduct

Damaged Girders of Viaduct
Damaged Quay Wall, Kobe Port (1)

Photographing Date: Jan. 1995
Damaged Quay Wall, Kobe Port (2)

Photographing Date: Jan. 1995
Urgent Restoration Works (1)

Standard Cross Section (indicate Pink Color on Damaged Quay Wall)

- Jetty Typed Quay Wall
- PC Hollow Girders for Apron
- Damaged Container Yard
- Steel Pipe Piles
- Damaged Quay Wall
- Quenched Blast Furnace Slag
- Filling Stone
- Sand Replacement Works for Soil Improvement
- Cray Layer
- Sand Layer
- Cray Layer
- Sand Layer

Note: Precast Concrete (PC)
Urgent Restoration Works (2)

- Damaged Hanshin Expressway (Viaduct)
- Kobe Port (Domestic/International)
- Reclaimed Island
- Kobe City
  - Reclaimed Island
  - Reclaimed Island
- Breakwater
- Marine Transportation Plan for PC Hollow Girders (indicate Green Line)

Restoration Site

Fabrication Site for PC Hollow Girders
### Urgent Restoration Works (3)

#### Restoration Works Schedule

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Sche.: Apr. 21, 1995 to Oct. 30, 1995

Reference: Great Hanshin Earthquake occur at 5am on Jan. 17, 1995
Urgent Restoration Works (4)

Placement Works of PC Hollow Girders

Completion of Placement Works
Urgent Restoration Works (5)

Completion of Urgent Restoration Works
Diversification of Structure with Earthquake Resistant
- Before Great Hanshin Earthquake, the Gravity-Typed Structures were mainly used on 90% of the Quay Wall -

① **Priority of Build Back Plan**
  (Container Terminal, Ferry Terminal, Access Bridge between Reclaimed Island to City Area)

② **Stock Yards for Debris of Structures**

③ **Aseismic Frame Structure and its Designing Method** of Restoration Works

④ **Reduced Construction Period**
  (Jacket Method, Piles & Blocks Structure Method, Adoption of Precast Members)
Thank you for your attention

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